

## PROJECT DESCRIPTION

This Project involves the modification of the existing traffic control signal at the intersection of MD 165 and MD 136 in Harford County.

The modification involves adding exclusive/permissive left-turn phasing for northbound and southbound MD 165.

## INTERSECTION OPERATION

The intersection currently operates in a NEMA four phase, full-traffic actuated mode with the MD 165 through movements operating concurrently and the MD 136 through movements operating concurrently.

### EQUIPMENT TO BE FURNISHED BY SHA

9089	155	SF	LEFT TURN YIELD ON GREEN SIGN, SPAN MOUNTED R10-12 (36" X 42") - 2 EA SHIELD ASSEMBLY SIGNS, POLE MOUNTED MD 136 (48" X 75") - 2 EA MD 152 (24" X 51") - 2 EA SHIELD ASSEMBLY SIGNS, POLE MOUNTED MD 165 (48" X 75") - 2 EA MD 165 (24" X 51") - 2 EA
9000	1	EA	RETROFIT DETECTOR RACK
9000	1	EA	POWER SUPPLY
9000	3	EA	4 CHANNEL AMPLIFIER

### EQUIPMENT TO BE FURNISHED AND/OR TO BE INSTALLED BY THE CONTRACTOR

100000	1	EA	MAINTENANCE OF TRAFFIC
800000	1	EA	REMOVE AND DISPOSE OF EXISTING MATERIAL AND EQUIPMENT PER ASSIGNMENT
800000	6	EA	FURNISH AND INSTALL 8 INCH VEHICULAR TRAFFIC SIGNAL HEAD SECTION - BLACK FACE
800000	32	EA	FURNISH AND INSTALL 12 INCH VEHICULAR TRAFFIC SIGNAL HEAD SECTION - BLACK FACE
800000	1	EA	FURNISH AND INSTALL 250 WATT HPS LUMINAIRE WITH PHOTOCCELL
800000	1	EA	FURNISH AND INSTALL 15' LIGHTING BRACKET ARM
800000	205	LF	FURNISH AND INSTALL ELECTRICAL CABLE - 2 CONDUCTOR (NO. 12 AWG)
869101	210	LF	FURNISH AND INSTALL STEEL SPAN WIRE- 1/4 INCH DIAMETER
805160	10	LF	FURNISH AND INSTALL 1 IN. LIQUID-TIGHT FLEXIBLE NON-METALLIC ELECTRICAL CONDUIT (DETECTOR WIRE SLEEVE)
813014	35.0	SF	INSTALL GROUND MOUNTED SIGN
813015	134.0	SF	INSTALL OVERHEAD SIGN
834001	2	EA	FURNISH AND INSTALL CONNECTOR KIT- TYPE 1
834002	2	EA	FURNISH AND INSTALL CONNECTOR KIT- TYPE 2
862101	865	LF	FURNISH AND INSTALL LOOP WIRE ENCASED IN FLEXIBLE TUBING (NO. 14 AWG)
862102	240	LF	FURNISH AND INSTALL SAW CUT FOR SIGNAL (LOOP DETECTOR)
861104	200	LF	FURNISH AND INSTALL ELECTRICAL CABLE - 2 CONDUCTOR (NO. 14 AWG) - ALUMINUM SHIELDED
861107	40	LF	FURNISH AND INSTALL ELECTRICAL CABLE - 5 CONDUCTOR (NO. 14 AWG)
861108	300	LF	FURNISH AND INSTALL ELECTRICAL CABLE - 7 CONDUCTOR (NO. 14 AWG)

NOTE: ALL REMOVED EQUIPMENT WILL BECOME THE PROPERTY OF THE CONTRACTOR

### CONTACT LIST

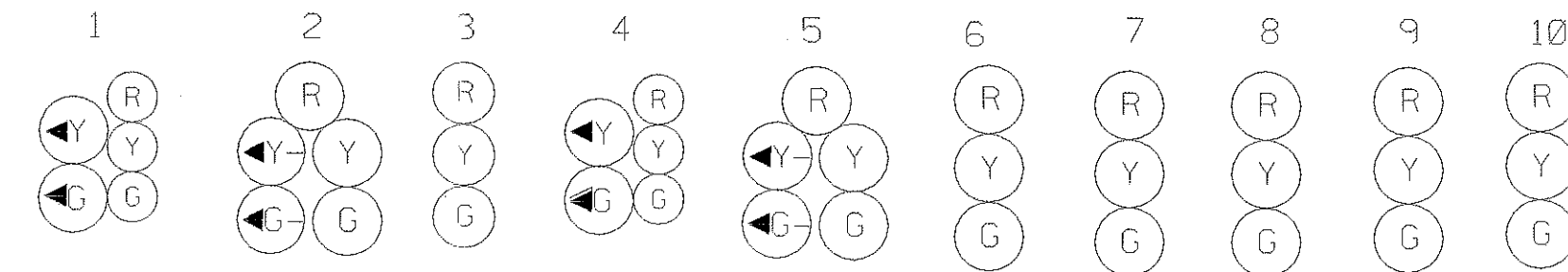
Mr. Dave Malkowski, District Engineer  
Phone: (410) 321-2761

Mr. Joseph McMahon, Assistant District Engineer-Utilities  
Phone: (410) 321-2841

Mr. Edward Rodenhizer, Chief  
SHA Traffic Signal Shop  
Phone: (410) 787-7650

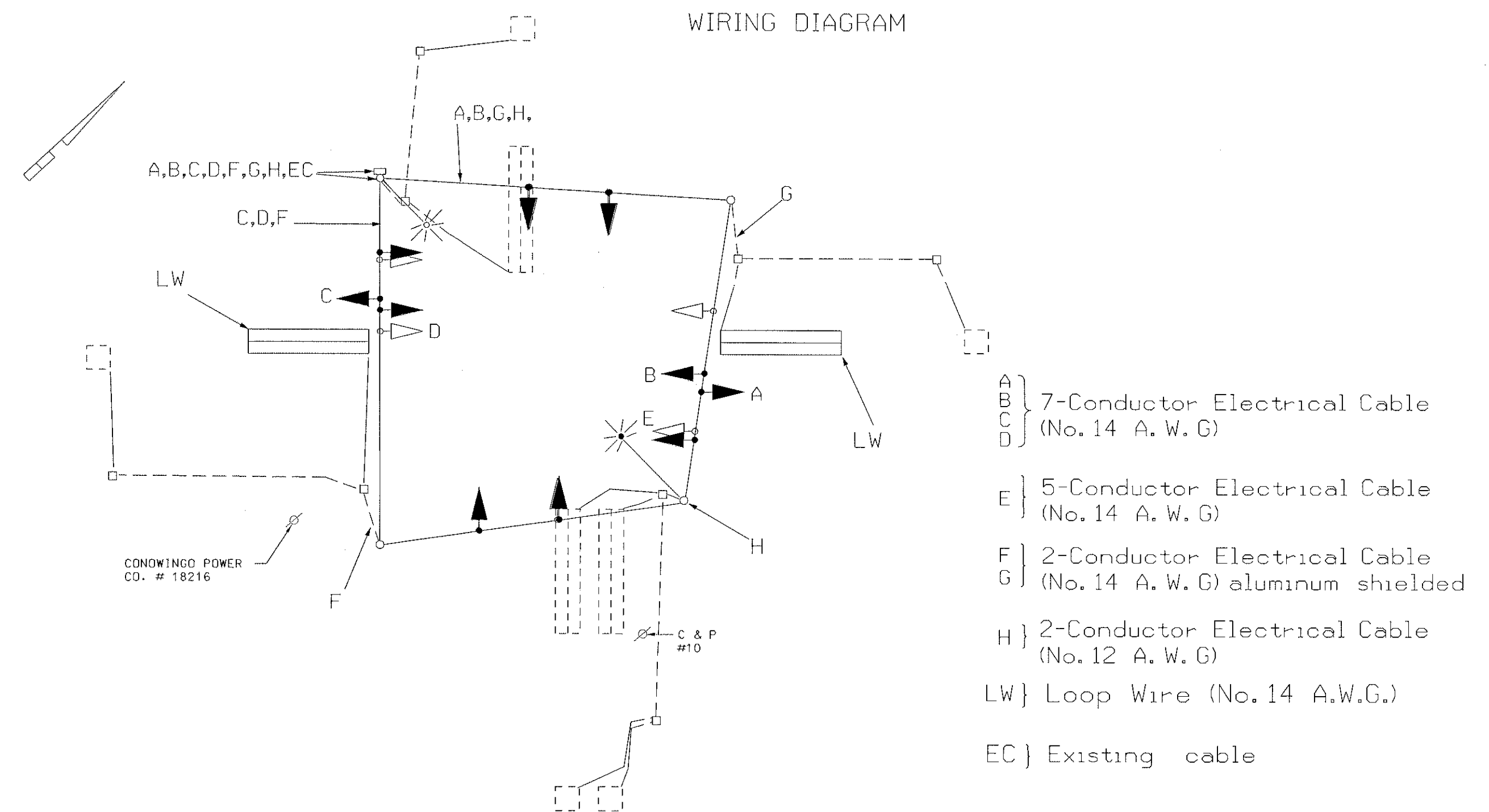
Mr. Richard Daff, SR., Chief  
Traffic Operations Division  
Phone: (410) 787-7630

## PHASE CHART



Phase 1 & 5	◀G-R	◀G-R	R	◀G-R	◀G-R	R	R	R	R	R	
1 & 5 Change	THE CONTROLLER MAY SKIP TO PHASES 1 & 6 OR 2 & 5 OR 2 & 6										↕
Phase 1 & 6	◀G-G	◀G-G	G	R	R	R	R	R	R	R	↕
1 & 6 Change	◀Y-G	◀Y-G	G	R	R	R	R	R	R	R	→
Phase 2 & 5	R	R	R	◀G-G	◀G-G	G	R	R	R	R	↕
2 & 5 Change	R	R	R	◀Y-G	◀Y-G	G	R	R	R	R	↕
Phase 2 & 6	G	G	G	G	G	G	R	R	R	R	↕
2 & 6 Change	Y	Y	Y	Y	Y	Y	R	R	R	R	→
Phase 4 & 8	R	R	R	R	R	R	G	G	G	G	↕
4 & 8 Change	R	R	R	R	R	R	Y	Y	Y	Y	↕
Flashing	FL/Y	FL/Y	FL/Y	FL/Y	FL/Y	FL/Y	FL/R	FL/R	FL/R	FL/R	+
Operation											+

## WIRING DIAGRAM



<b>REVISIONS</b>		<b>APPROVALS</b>		<b>MARYLAND DOT - STATE HIGHWAY ADMINISTRATION</b> <i>Office of Traffic &amp; Safety</i> <b>TRAFFIC ENGINEERING DESIGN DIVISION</b>	
<b>REVISIONS</b>		<b>APPROVALS</b>			
E INSTALL E/P LT PHASING ON MD 165 SHA NO. DT 2000		TEAM LEADER, TRAFFIC ENGINEERING DESIGN DIVISION		DRAWN BY: <u>W. MALCOLM</u> CHECKED BY: <u>2598-E</u> SCALE: <u>NOT TO SCALE</u> DATE: <u>02/1990</u>	
BV		ASST. CHIEF, TRAFFIC ENGINEERING DESIGN DIVISION			
D UPGRADED I.C.B. TO A FULLY ACTUATED SIGNAL S.H.A.*		CHIEF, TRAFFIC ENGINEERING DESIGN DIVISION		TS NO. <u>2598-E</u> T.I.M.S. NO. <u>E-604</u>	
WM		DIRECTOR, TRAFFIC & SAFETY		SHEET NO. <u>02</u> OF <u>02</u>	
C. AS BUILT					
WM					
B RECONSTRUCT I.C.B. S.H.A. *855-25031005					
WM					